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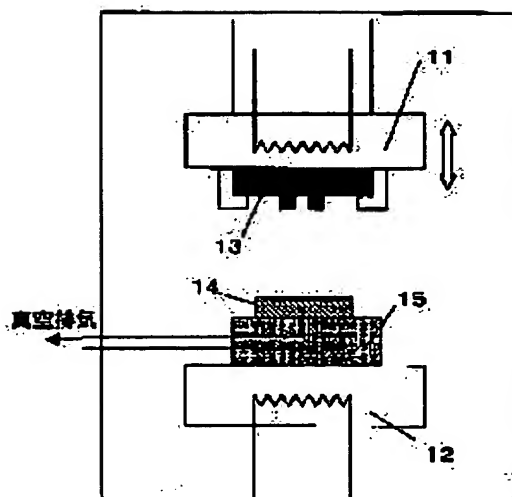
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(54) TRANSFER OF MINUTE SHAPE AND MANUFACTURE OF OPTICAL PART

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(57)Abstract:

PROBLEM TO BE SOLVED: To transfer a highly precise and minute shape by a method wherein a mold containing an uneven pattern is prepared, and specific relations among a temperature at which the mold is pressed to a base material, a temperature at which the mold is separated from the base material, thermal expansion coefficients of the mold and the base material, and a maximum distance from a transfer center of a transfer face to the uneven pattern are simultaneously satisfied.

SOLUTION: Passing of electric current to the upper and lower heaters is controlled under the condition wherein an uneven pattern of a

quartz mold 13 is allowed to cut into a resin base 14, a temperature of the heater is lowered to 150° C, the upper heater block 11 is pulled up, and an upper mold 13 is forcibly separated from the resin base 14. It a temperature at which the quartz mold 13 is pressed to the resin base 14 is taken as T1° C, a temperature at which the quartz mold 13 is separated from the resin base 14 is taken as T2° C, thermal expansion coefficients of the quartz mold 13 and the resin base 14 are respectively taken as αa and αb , and a maximum distance from a transfer center of a transfer face to the uneven pattern is d mm, relations of $1 \alpha a - \alpha b 1. (T1 - T2).d \leq 4 \times 10^{-2}$ and $T1 \geq T2$ are made simultaneously satisfied.

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